FINAL RESULTS ON MODELING THE SPECTRUM OF AMMONIA $2\nu_2$ AND ν_4 STATES

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At this symposium in 2013, we reported our preliminary results on modeling the spectrum of ammonia $2\nu_2$ and ν_4 states (see Paper TB09 in 2013). This presentation reports the final results on our extensive experimental measurements and data analysis for the $2\nu_2$ and ν_4 inversion-rotation and vibrational transitions. We measured 159 new transition frequencies with microwave precision and assigned 1680 new ones from existing Fourier Transform spectra recorded in Synchrotron SOLEIL. The newly assigned data significantly expand the range of assigned quantum numbers. Combined with all the previously published high-resolution data, the $2\nu_2$ and ν_4 states are reproduced to 1.3σ using a global model. We will discuss the types of transitions included in our global analysis, and fit statistics for date sets from individual experimental work.